



## Community Awareness on Environmental Sustainability in Port Dickson, Negeri Sembilan

Azim Ikhwan Muhaiyitdin<sup>1</sup>, Muhamad Muaz Rafiuddin<sup>1</sup>, Muhammad Hazriq Haikal Samsudin<sup>1</sup>, Nur Sofea Izreen Maszli<sup>1</sup>, Radzli Afiq Jazimin Radzmil Azhar<sup>1</sup>, Shazana Fatihah Saharudin<sup>1</sup>, Muhamad Fuad Abdul Karim<sup>1</sup>

<sup>1</sup>Fakulti Sains Pentadbiran dan Pengajian Polisi, Universiti Teknologi MARA Negeri Sembilan, Kampus Seremban

Corresponding email: [fuad645@uitm.edu.my](mailto:fuad645@uitm.edu.my)

### Article Information

#### Keywords

Waste Segregation Policies, Public Environmental Awareness, Community Participation, Sustainable Waste Management, Urban Environmental Governance

### Abstract

The environment has been generally considered to be the most important global issue and it has therefore been very important to find solutions that would allow for a simultaneous benefit to the economy and the environment. This research will focus on the environmental sustainability and its recognition, consciousness, and practice in the case of Port Dickson residents, a town in the state of Negeri Sembilan in Malaysia. A quantitative, cross-sectional study was used to collect data from 183 participants through questionnaires that were structured and contained questions regarding demographic characteristics, residents' knowledge, attitudes, practices, and community engagement. The data was analyzed by applying descriptive statistics, reliability analysis along with mean score assessments. The outcomes showed that the awareness level and engagement were very high with an average score of 4.29 and a Cronbach's alpha coefficient of 0.823, thus indicating that the internal consistency was excellent. The respondents were very much aware of their individual responsibility and the need of conserving resources, however, there was a difference in the level of confidence to express the sustainability topics. All these lead to the conclusion that there is a need of community-based awareness programs and the policy support to really narrow the gap between the knowledge and the environmental action. The research highlights the need for policy makers to empower the communities to be a part of the sustainability initiatives and in that way play a role in the country's achievements with regard to the SDGs.

### INTRODUCTION

The issue of environmental sustainability is of utmost importance nowadays as the countries try to find a way to develop economically without having to lose the natural resources which they would want to preserve for the generations to come later. Planet-wide environmental degradation (which consists of the unavailability of clean air and water, climate change and bad pollution) has been getting worse year by year and in a way that it seriously endangers the well-being of human beings and also the stability of the economy (Usmani et al., 2020). The UN in

turn made the Sustainable Development Goals (SDGs) to address this crisis, with the main focus on SDG 13 (Climate Action) and SDG 11 (Sustainable Cities and Communities) which highlighted the importance of the public taking part in and doing responsible environmental practices.

Malaysia has made it clear that it is determined to be environment friendly and though the country has taken measures that further this cause, among which is a ban on logging in certain parts of the forest, deforestation, and water contamination remain major challenges (Marzo et al., 2023). Community participation in the safeguarding of the environment is the key to the success of these measures. Port Dickson—a coastal town that attracts tourists and is one of the largest in Negri Sembilan—also has some of the same environmental issues as mentioned above, such as pollution, illegal dumping, and poor waste removal (The Star, 2024). The above-mentioned problems exist together with the fact that public awareness of environmental issues differ and that the local people as well as the tourists are not consistent in their being responsible to the environment.

The lack of community knowledge and involvement might lead to more serious environmental degradation in the area. Although the natural beauty of Port Dickson is acknowledged by many people, not every person is aware of the sustainable practices that protect the environment for the long run or engages in them. That is why it is of utmost importance to find out what the community knows, what their attitudes are and what their environmental practices are. Additionally, issues like education, occupation, and exposure to advocacy campaigns may have a bearing on people's environmental awareness and their behavior towards it (Yusof et al., 2025).

The research will investigate the extent of awareness on environmental sustainability among the people residing in Port Dickson through the lens of KAP (Knowledge, Attitudes, and Practices). Besides that, it will also try to discover the major factors that have an impact on people's awareness of sustainability and to put forward techniques that are capable of fostering public advocacy and community-based environmental engagement. The results of this research will help the government and NGOs (non-governmental organizations) to come up with more effective awareness-raising campaigns and community programs. At the end of the day, better public understanding and involvement will not only assist Malaysia in reaching the SDGs but also encourage responsible and long-lasting environmental behavior at the grassroots level.

## LITERATURE REVIEW

Environmental sustainability can be described very generally as the diligent use and conservation of natural resources that will eventually lead to a long-lasting ecological balance. Setting the course for future discussions, Wahab et al. (2022) take an ecological standpoint by defining environmental sustainability as the coexistence wherein nature retains its basic qualities and human activities are allowed to a certain extent with minimal harm to nature. The Journal of Infrastructure, Policy, and Development (2023) likewise clarifies that in order to be called sustainable, individuals and institutions must act in a way that is friendly to the environment, thus creating living environments that are clean, safe, and healthy. Usmani et al. (2020) also support this characterization by linking sustainability to the decrease in pollution, environmental degradation, and health risks. All these studies together reiterate that the theme of sustainability is the constant efforts of the human communities, institutions, and governments to keep the natural environment's quality for the next generations.

For community awareness as a main factor in realizing sustainable development, this is especially true for regions that are highly dependent on natural resources. The study by Marzo et al. (2023) demonstrates that in areas along the coast of Malaysia, community involvement has a considerable positive impact on environmental sustainability. The research also shows that communities living close to the nature do so by practicing conservation and resource management techniques if they are well-informed about the environmental issues. The Journal of Infrastructure, Policy and Development (2023), in turn, mentions that through public education and community programs environmental awareness is developed thus leading to better civic responsibility and cleaner environments. The three studies yield an outcome suggesting that awareness is the base upon which sustainable behavior is established.

Awareness is a prerequisite for change, but it does not necessarily lead to it. Aquan, Handoyo, and Priantoro (2025) proved that people who are highly knowledgeable about the environment and have positive attitudes may not necessarily use the sustainable practices. The KAP (Knowledge, Attitude, and Practice) gap is what separates these two groups and indicates that knowledge is not the only factor in determining the environmentally friendly behaviour. On the same line, Wahab et al. (2022) argue that although a large portion of the Malaysian population has a positive attitude towards conserving the environment, their actual participation in sustainable activities is not consistent. This shows that awareness campaigns need to be accompanied by practical engagement, incentives, and active community involvement.

Along with awareness, demographic factors also play a crucial role in determining sustainable practices. According to Yusof et al. (2025), the degree of education and gender had a major impact on the environmental awareness of the inhabitants of Seremban. Their research indicates that the higher the level of education the more being informed about the environment, being concerned, and being willing to engage in sustainability efforts are the case. Occupation, age, and exposure to advocacy activities also affect the community's readiness to practice environmentally friendly habits. These demographic trends are of great significance in portability awareness programs for various communities like Port Dickson, which consists of the local population, the workers, and the tourists.

Institutional factors often play a significant role in the success or failure of environmental sustainability efforts. According to Mariyam, Satria, and Samsudin (2023), the situation is such that community participation is rendered ineffective due to limited access to information about the environment and the weak enforcement of laws. When local communities remain unaware of the state of the environment, the pollution levels, or the legal frameworks that protect the environment, they will be unable to take part in any serious conservation activities. Usmani et al. (2020) also pointed out that the poor enforcement of policies is one of the factors that Malaysia is still suffering from the air pollution problem and public health risks. These studies indicate that in order to achieve the full potential of community-based environmental action, comprehensive governance is needed.

The participation of locals in the planning and decision-making processes not only makes the sustainability initiatives more relevant but also increases their impact. Mia et al. (2022) argue that community-based planning is a method in which local knowledge, needs, and cultural practices are considered in development projects. The community is thus made to feel that the project is theirs, which in turn fosters their long-term commitment and contributes to the environmental program's sustainability. In the case of coastal communities like Port Dickson, where the direct impact of pollution, waste mismanagement, and tourism on residents is very tangible, community-based approaches are absolutely necessary.

Coastal regions suffer from global warming, which puts their flora and fauna at high risk. These regions suffer from pollution, which affects people's health and drives the costs of the local economy down. In the article about Port Dickson, the authors of the article cite that not only is the area dealing with illegal dumping and marine pollution but also the government of Malaysia is unable to close the issue of waste-aspect properly despite its multiple efforts, thus posing a risk to the reef and local biodiversity invertebrates. Erosion, for instance, is something that takes place in the area very fast due to improper waste disposal, which then leads to overflow of chemicals and trash along the shore and into the oceans (Marzo et al., 2023). They point out that in environmental scenarios where community-oriented approaches are rated low, the government would be making a mistake if the area is still considered as a tourist resort and its impact on the local community is rated less than the tourist benefits.

## METHODOLOGY

This study employed a quantitative cross-sectional research design to examine public awareness of environmental sustainability among Malaysians, focusing on residents of Port Dickson, Negeri Sembilan. A total of 183 respondents representing diverse demographic backgrounds were selected using a convenience sampling method. Data was collected through a structured questionnaire administered both face-to-face and online, encompassing four sections: socio-demographic characteristics, environmental sustainability knowledge, environmental practices, and community engagement. Responses were measured using a five-point Likert scale ranging from 1 (Strongly Disagree) to 5 (Strongly Agree). Descriptive statistics, including means and standard deviations, were employed to analyze the data, while Cronbach's alpha coefficient was used to assess the internal consistency of the instrument, with values exceeding 0.60 considered acceptable for reliability. Ethical considerations were rigorously observed throughout the study, ensuring participants' anonymity, informed consent, voluntary participation, and the confidentiality of all collected data.

## RESULT AND DISCUSSION

### *Profile of Respondents*

The demographic data (Table 1.0) shows that these participants have been broadly classified. The distribution of gender was quite even, with male (93 respondents, 50.82%) and female (90 respondents, 49.18%). This distribution helps to confirm that the results are not biased towards any one particular gender perspective. The majority of the respondents were adults in a working age category. The most significant age group was 26-40 years of age, consisting of 89 people (48.63%). Then came the age group of 18-25 with 55 young persons (30.05%). Low age groups included 41-60 years old (19 persons, 10.38%), Above 60 (10 persons, 5.46%), and Below 18 (10 persons, 5.46%). It indicates that the survey was mainly focused on the young and middle-aged adult

populations who are still in their peak working years. Regarding the education levels of the respondents, the most common degree was a Bachelor's which was acknowledged by 161 respondents (87.98%). The least received were Diploma (7 respondents, 3.8%), Postgraduate qualifications (6 respondents, 3.3%), Secondary education (5 respondents, 2.73%), and Primary education (4 respondents, 2.19%). The group that made up the sample is thus very well educated overall. The most significant part of the data concerning jobs came from the Private Sector, where 76 respondents (41.53%) came from. Next were the Government Sector (47 respondents, 25.68%) and Students (46 respondents, 25.14%). Self-employed (11 respondents, 6.1%) and Unemployed (3 respondents, 1.64%) were smaller groups. The data indicates that the respondents were mainly adults who worked, with a considerable number of students supporting the group. The demographic profile indicates that the main source of this study's findings is educated, working-age adults with even gender distribution and a wide range of occupational backgrounds.

TABLE 1.0  
PROFILE OF RESPONDENTS (N=126)

Profile	Category	Frequency	Percentage (%)
Gender	Male	93	50.82
	Female	90	49.18
Age	Below 18 years old	10	5.46
	18 – 25 years old	55	30.05
	26 – 40 years old	89	48.63
	41 – 60 years old	19	10.38
	Above 60	10	5.46
Education	Primary	4	2.19
	Secondary	5	2.73
	Postgraduate	6	3.28
	Diploma	7	3.83
	Bachelor's	161	87.98
Occupation	Private Sector	76	41.53
	Government Sector	47	25.68
	Student	46	25.14
	Self-employed	11	6.01
	Unemployed	3	1.64

To assure the internal consistency of the instrument, the reliability of the questionnaire was evaluated through Cronbach's alpha. The examination comprised all aspects of the survey, which were environmental knowledge, practices, attitudes, and community engagement. Each scale showed adequate reliability levels, with Cronbach's alpha coefficients surpassing the usually accepted threshold of 0.70 (Taber, 2018). The coefficient of Cronbach's alpha for the variable "Environmental Awareness and Sustainability Attitudes" reached the value of 0.823, signifying an excellent of reliability. Consequently, the result corroborates that the scale items applied for measuring environmental awareness were extraordinarily coherent and trustworthy among the participants from Negeri Sembilan. These findings point out that the instrument measures the intended construction consistently and that the responses can be relied upon for further analysis.

Table 1.1  
RELIABILITY TEST

Variable	Number of Items	Cronbach's Alpha	Reliability Assumed
Environmental Awareness and Sustainability Attitudes in Port Dickson, Negeri Sembilan	10	0.823	Excellent

#### *Mean and Standard Deviation*

The analysis of the mean and standard deviation was significant since it made clear the respondents' total awareness and the degree of their engagement concerning environmental sustainability. The participants rated their understanding and participation in the sustainability issues using a five-point Likert scale (1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree). The overall mean score of 4.29, which is placed in the high range (3.58–5.00) as per Table 1.2, with a standard deviation of 0.85, is illustrated in Table 1.2. The findings represent that the participants, overall, were highly aware of environmental concerns and took part in actions that were sustainability-related, which in turn indicates a large share of the population in Negeri Sembilan who are environmentally conscious..

Table 1.3  
LEVEL OF MEAN SCORE RANGE

Mean Score Range	Level
1.00 – 2.33	Low
2.34 – 3.67	Medium
3.58 – 5.00	High

Table 1.4  
MEAN AND STANDARD DEVIATION

Variable	Mean	Standard Deviation	N
Environmental Awareness and Sustainability Attitudes in Port Dickson, Negeri Sembilan	4.95	0.850	183

## CONCLUSION

This research brings forth the very important role of community awareness and involvement for the environmental sustainability to take place in Port Dickson, Negeri Sembilan. The results are such that the participants are very knowledgeable and concerned about environmental issues, which is also reflected by the high internal consistency across the survey items. On the other hand, the outcomes bring to light some of the gaps that exist between awareness and behavior that can be deemed as action, one of them being the community's lack of confidence in communicating sustainability ideas among them. Filling the gap will require extensive climate and environmental education, provision of community participating platforms that are easy to access, and clear communication of policies at the local level. By all means, the only time when sustainable and truly impactful environmental actions can take place is when the communities are not only aware but also properly supported, motivated, and equipped to react. It is through the strength of the alliance among the government agencies, NGOs, and the local population that resilience will be built and ecological balance assured over a long period. Empowering and involving the community will make Port Dickson a pioneer when it comes to sustainability driven by grassroots; thus, the local initiatives would be in line with Malaysia's commitment to the SDGs and the global climate action.

## REFERENCES

- Aquan, H. M., Handoyo, L. D., & Priantoro, A. T. (2025). Exploring the environmental awareness: Knowledge, attitudes, and behaviors in Indonesia's academic community. *Jurnal Penelitian dan Bisnis Indonesia*, 11(2), 45–57.  
<https://ejournal.umm.ac.id/index.php/jpbi/article/view/39505>
- Creswell, J. W., & Creswell, J. D. (2018). *Research design: Qualitative, quantitative, and mixed methods approaches* (5th ed.). Sage Publications.
- Etikan, I., Musa, S. A., & Alkassim, R. S. (2016). Comparison of convenience sampling and purposive sampling. *American Journal of Theoretical and Applied Statistics*, 5(1), 1–4.  
<https://doi.org/10.11648/j.ajtas.20160501.11>
- Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2019). *Multivariate data analysis* (8th ed.). Cengage Learning.
- Journal of Infrastructure, Policy and Development. (2023). Cultivation of green environmental awareness towards cleanliness city in Malaysia. *Journal of Infrastructure, Policy and Development*, 7(1), 112–124.  
<https://systems.enpress-publisher.com/index.php/jipd/article/view/6213/4387>

- Likert, R. (1932). A technique for the measurement of attitudes. *Archives of Psychology*, 22(140), 1–55.
- Mariyam, S., Satria, A. P., & Samsudin, M. (2023). What are the forms and obstacles of community participation in environmental damage prevention? *Administrative and Environmental Law Review*, 4(2), 115–126. <https://jurnal.fh.unila.ac.id/index.php/aelr/article/view/2992>
- Marzo, R. R., Chen, H. W. J., Anuar, H., Abdul Wahab, M. K., Ibrahim, M. H., Ariffin, I. A., Ahmad, A. I., Kawuki, J., & Aljuaid, M. (2023). Effect of community participation on sustainable development: An assessment of sustainability domains in Malaysia. *Frontiers in Environmental Science*, 11, 1268036. <https://doi.org/10.3389/fenvs.2023.1268036>
- Mia, M. T., Islam, M., Sakin, J., & Al-Hamadi, J. (2022). The role of community participation and community-based planning in sustainable community development. *Asian People Journal*, 5(1), 31–41. <https://journal.unisza.edu.my/apj/index.php/apj/article/view/296>
- Resnik, D. B. (2018). *The ethics of research with human subjects: Protecting people, advancing science, promoting trust*. Springer.
- Taber, K. S. (2018). The use of Cronbach's alpha when developing and reporting research instruments in science education. *Research in Science Education*, 48(6), 1273–1296. <https://doi.org/10.1007/s11165-016-9602-2>
- The Star. (2024, October 16). Chemical waste dump site found in Port Dickson. *The Star (Malaysia)*.
- Usmani, R. S. A., Saeed, A., Abdullahi, A. M., Pillai, T. R., Jhanjhi, N. Z., & Hashem, I. A. T. (2020). Air pollution and its health impacts in Malaysia: A review. *Air Quality, Atmosphere & Health*, 13, 1093–1118. <https://doi.org/10.1007/s11869-020-00867-x>
- Wahab, N. A., Samah, M. A. A., & Kamarudin, M. K. A. (2022). Environmental awareness studies in environmental management at Terengganu, Malaysia. In M. A. A. Samah & M. K. A. Kamarudin (Eds.), *Environmental management and sustainable development* (pp. 1–18). Springer. [https://doi.org/10.1007/978-3-030-93932-8\\_1](https://doi.org/10.1007/978-3-030-93932-8_1)
- Yusof, A. C., Faizul, A., Ghazali, M., Md Shahid, K., & Krishnan, D. (2025). The effects of gender and education level on environmental awareness: Findings from the lens of community in Seremban. *Malaysian Journal of Sustainable Environment*, 12(1), 225–240.